

# Economic Botany

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*Papaver somniferum*  
Aphhen / Opium / Poppy

- BN- *Papaver somniferum*
- Family- Papaveraceae
- wonderful –narcotic effect
- Also grown for ornamental plant

• Origin and Distribution

- Asia
- Mostly cultivated in Aus, Burma, Iran, India, Pak, Japan



Poppy flower and capsule

# Opium

## Source:-

opium or gum opium poppy or poppy capsules

It is obtained from dried latex of unripe capsules of papavarine species (by vertical incisions 0.1 to 0.5 mm depth)

Papavarine somniferum

P . bractatum

P . orientale

P . rhoeas

## Commercial varieties :-

Turkis opium

Indian opium

Chainese opium

Russian opium



# Poppy plant Morphology

- *Papaver somniferum* is cultivated as an ornamental plant. It is an erect annual herb 30-100 cm tall.
- Leaves –alternate, ex stipulate, simple, ovate oblong, sessile, dentate or serrate.
- Flowers- large, showy, white /purple, ebracteate, actinomorphic, hermaphrodite
- Fruit- Capsule, globose, stalked. Seeds are small white/black, reniform

# Poppy plant



# Different parts of Poppy plant



# Cultivation of Poppy

- It is cultivated as a rabi crop(sown in winter and harvested in spring). It is prep. in Sep by repeated ploughing. Large amount of fertilizers and manures are added.
- It is entrusted to cultivators under licences issued by district opium officers of different areas.
- The licensed cultivators on behalf of the Govt., sow the poppy, lance the capsules, collect the latex and deliver it at the weighing centres at a price fixed by the Govt.

- The two varieties which are under cultivation are var album D.C., cultivated in India and var. glabrum D.C. cultivated in Asia Minor, Egypt and parts of Iran.
- There are several forms of var album
- The form with white flowers-(U.P.)
- The form with red/purple flowers-(M.P. & Rajasthan)

- Opium grows in varying climates. In cold, opium yield is diminished. Frost is very destructive.
- It prefers sandy loam.
- It is harvested by incising the capsules at a particular phase of plant growth with a special type of knife with 3-4 blades(to ensure uniformity in the depth of incisions)

# Cultivation of Poppy in Bengal & Kashmir



- Each capsule is lanced 3-4 times until no more latex exudes.
- Lancing is done after midday
- In morning, the coagulated latex(raw opium) is collected with iron scoop.

# Lancing of Poppy



# Chief Opium Alkaloids

- Morphine(Most abundant, exists in combination with meconic & sulphuric acid in form of salts)
- Codeine
- Thebaine
- Narcotine
- Narceine
- Papaverine

# OPIUM

**BIOLOGICAL SOURCE:-** Obtained from dried milky latex obtained by incision from *Papaver somniferum*.

**FAMILY:-** Papaveraceae.

**CHEMICAL CONSTITUENTS:-** Morphine, Thebaine, Codeine, Heroin & Papaverine

**USES:-** Narcotic, Analgesic, Sedative & Cough Suppressant

